

COLORADO SPRINGS FIRE DEPARTMENT

# Alcoholic Beverage Production Facilities

Requirements for the installation and use of Distilleries and other Alcoholic  
Beverage Production Facilities



TECHNICAL SERVICES  
5/1/2018



Division of the Fire Marshal | 375 Printers Parkway | TEL 719-385-5978 • FAX 719-385-7334



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PURPOSE

This document outlines the Colorado Springs Fire Department’s policies, procedures, requirements and local fire code interpretations pertaining to the permitting of alcoholic beverage production and facilities that contain them. It is not the intent of this document to reiterate fire code requirements. Fire code requirements can be viewed by visiting [www.iccsafe.org](http://www.iccsafe.org). Local amendments to the fire code can be found at [www.coloradosprings.gov](http://www.coloradosprings.gov) and searching for “Fire Code Amendments” in the search field.

SCOPE

This document applies to any new or existing alcoholic beverage production facilities and associate processes that are located in the City of Colorado Springs.

DEFINITIONS

- Alcoholic Beverage Production Facility (ABPF)** Any building or portion thereof where ethanol mixtures are produced, stored, handled, blended, dispensed, or bottled in the production of alcohol beverages including areas for grain storage and handling.
- Brewery** An alcoholic beverage production facility in which beer or other malt liquors are produced. For spirit production, beer and wash are synonymous as precursors to distillation.
- Control Area** Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used, or handled.
- Distillation** The separation and concentration of the constituents of an ethanol mixture by slowly raising the temperature of the mixture through the boiling point of its constituents then collecting and condensing the constituent vapors separately from the mixture. This is fundamentally different from the brewing process.
- Ethanol** A volatile, flammable, colorless, neurotoxic liquids fit for human consumption. This flammable liquid is the main hazard associated with alcoholic beverage production facilities based on its concentration in the beverage and processing.
- Flammable Liquid** A liquid having a closed cup flash point below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:
- Class IA. Liquids having a flash point below 73°F (23°C) and having a boiling point below 100°F (38°C)
  - Class IB. Liquids having a flash point below 73°F (23°C) and having a boiling point at or above 100°F (38°C).
  - Class IC. Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).
- The category of flammable liquids does not include compressed gases or cryogenic fluids
- High-hazard Occupancy (H-Occupancy)** High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas, based on the maximum allowable quantity (MAQ) amounts. Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5; ABPFs can generally fall under H-2 or H-3 occupancies.
- Maximum Allowable Quantity (MAQ)** The maximum amount of a hazardous material allowed to be stored or used within a control area inside a building or an outdoor control area. The maximum allowable quantity per control area is based on the material state (solid, liquid or gas), material hazard category and the material storage or use conditions. NOTE: THIS IS NOT THE SAME AS THE PERMIT QUANTITY FOR A FACILITY. If a CONTROL AREA exceeds the MAQ, that CONTROL AREA will be required to be reclassified as an appropriate H-Occupancy. For example, the MAQ for class IB flammable liquids is 120 gallons per control area.

**Permit Quantity** The quantity of a hazardous material category in a facility which, when exceeded, requires a permit issued from the Colorado Springs Division of the Fire Marshal prior to storage or use on the site. NOTE: THIS IS NOT THE SAME AS THE MAXIMUM ALLOWABLE QUANTITY. A facility can exceed the permit quantities without a reclassification of the occupancy to an H occupancy; furthermore, the permit amount is facility-wide but the MAQs are per control area. For example, the permit quantity is for a class IB liquid is 25 gallons total in the entire facility.

## Permitting, Plans, Fees, and Inspections

### *I. Permitting*

A construction permit is required to be issued prior to installation of any processing or storage equipment associated with the ABPF. An annual, operational permit is required to be issued for use of the ABPF after installation.

### *How to Complete the Permit Application*

Once it is determined that a permit is required, a permit application must be completed and attached to the plans submitted through the Pikes Peak Regional Building Department. Visit <https://coloradosprings.gov/fire-department> and search for “Permit Application” to find the permit application. Complete the permit application accurately as follows:

1. Under Part 1, fill in Sections 1, 2, and 3 with required information. If the information is the same across sections, fill in Section 1 and state “Same as Above” under Company Name in Sections 2 and 3
2. Fill in Section 6 with the corresponding relevant information for each tank to be installed.
3. Sign as indicated under Section 8.
4. Under Part 2 (Second Page), check the following box:
  - “105.7.88 – Flammable and Combustible Liquids” that is located under the Construction Permits section.
5. Attach and/or submit completed permit application along with required plans and documentation to the Division of the Fire Marshal

### *Plans and Required Documentation*

The following, as applicable, is required to be submitted for review:

1. Completed permit application
2. Detailed and dimensioned or to scale site plan showing the following, as applicable:
  - a. Alcohol production areas
  - b. Occupancy Classifications of production and storage rooms
  - c. Wall and door fire ratings
  - d. Electrical classification areas per National Electric Code (NEC) - Class 1, Division1 (C1D1) and Division 2 (C1D2) areas
  - e. Ventilation Details
3. Documentation as follows:
  - a. Inventory of all hazardous materials stored and used, indicating amounts, container sizes, and locations
  - b. Extraction equipment letter of intent that outlines the following (hazardous operations only):
    - i. Extractor model name/number
    - ii. Manufacturer name
    - iii. Serial #
    - iv. Extractor master report number on file with CSFD
  - c. Cutsheet information on the following, as applicable:
    - i. Processing equipment
    - ii. Process pumps and piping
    - iii. Any equipment having a listing or lab approval
4. Distillation/processing/storage/bottling procedure

### *II. Fees*

Plan review and inspection fees are required for this permit. Fee amounts are based on the currently approved Division of the Fire Marshal fee schedule.

- The initial plan review fee covers the first two plan reviews and first inspection
- Third and subsequent plan review fees will be imposed in addition to the initial permit fee  
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- Second and subsequent inspection fees and/or trip fees will be imposed in addition to the initial permit fee should the

- installation not be ready for or fail inspection the first time
- Overtime fees will be imposed in addition to the initial fee should the inspection be requested after normal business hours
- Trip or inspection fees will be imposed in addition to the initial fee for inspection of additional arrangements

If desired, an expedited plan review fee may be paid to expedite review of the plans and permit application. This fee is in addition to the initial plan review fee.

Plan review fees must be paid before the inspection can be scheduled. Any fees resulting from multiple inspections will be billed to the applicant. If fees are not paid, future permit applications and/or inspections may be denied.

Once the plans have been reviewed and accepted, and the plan review fees have been paid, the contractor/installer may begin installation of the equipment and system in compliance with the accepted plans. Should the equipment or system be installed or in the process of being installed prior to the review and approval of the application, a “Work without Permit” fee will be imposed in addition to the initial plan review fee.

If the plan is part of a Pikes Peak Regional Building Department plan submission, then the fee will be paid at the time the plan is release to the submitter.

The plan must be approved prior to commencement of work. Permit applications submitted without the required information listed above may be returned and/or not accepted.

### III. Inspections

A fire inspection of the installation is required. To schedule an inspection, call 719-385-5978 and follow the prompts for inspection scheduling. Due to the fluctuation of inspectors schedules, it is strongly recommend that inspections be scheduled a minimum of three business days prior to the date of the scheduled installation.

The following is required for the fire inspection:

1. Representative from the user be present
2. Representative from the contractor/installer be present
3. Installation to be fully constructed

Once the installation passes inspection, a permit will be issued and the ABPF may be utilized.

## PLAN SUBMITTAL REQUIREMENTS

It is the designers’ responsibility to design the ABPF and systems per all applicable requirements of the locally adopted fire code. The requirements offered here are either new to the code or have generated issues and/or questions in the past. Installations must comply with Chapter 38 of the 2015 IFC.

**Flammable Liquid Classification** The flammability of a spirit increases as the ethanol content of the beverage increases. The fire code classifies any beverage or spirit with an alcohol content greater than 16% to 34% shall be regulated as a Class IC flammable liquid. Those with a concentration greater than 34% shall be regulated as a Class IB flammable liquid. The MAQ for these categories is 120 gallons per control area *combined*. Liquids with concentration of 16% are not regulated as flammable or combustible liquids.

**Maximum Allowable Quantities** As noted earlier in the document, it is extremely important to recognize the Maximum Allowable Quantities for the location. Generally, the MAQ for distilled spirits is 120 gallons per control area; note that this is for each *control area*, and not for the whole facility. Multiple control areas can be constructed within a building, following the requirements contained in Chapter 50 of the 2015 International Fire Code with local amendments. Note, ethanol beverages packaged in individual containers no exceeding 1.5 gallons in volume shall not be counted towards the MAQ limit. Exceeding the MAQ will require the area to be re-classified to an H-2 or H-3 occupancy.

**Wooden Barrel Storage** The storage of wooden barrels for spirit aging are regulated under Chapter 38; these wooden barrels are not required to conform to NFPA 30 or the requirements of Chapter 57 of the 2015 IFC, they do count towards the MAQs of the control area they are located in. For a facility that ages large amounts of spirits, the barrel storage area can easily be required to meet H-3 occupancy requirements, which includes automatic sprinkler system and fire separation requirements.

**High Pile Storage of Barrels and other containers** Alcohol with concentrations greater than 80% ethanol content or wooden barrels that are stored greater than 6’ above the floor are required to meet the requirements of Chapter 32 of the 2015 IFC (an additional permit is required – see the High Pile Guidance Document available on the CSFD website). Specific requirements will apply whether the commodities are stored in pallets, solid-pile, or in racks, but the storage areas may require any of the following:

- Automatic Sprinkler System
- Fire Detection System
- Additional Building Access
- Smoke and heat Removal

**Electrical Classifications** The distillation, processing, storage, and bottling processes shall be electrically classified according to the currently adopted version of the National Electrical Code (NEC). Generally, any parts of the operation where vapors are released into the area, whether intentionally or not are required to be classified appropriately. For example, the immediate area around the still is required to be a C1D1. The engineer or architect that is part of the project will be the person responsible to determine the extent of the electrical classification, with the fire code official approving the areas.

**Mechanical Ventilation** Areas where flammable liquid vapors could collect in the ABPF shall be ventilated to ensure that the vapor concentration remains at 25% of the lower flammable limit (LFL) concentration. The areas most likely to require ventilation will be the distillation, processing, and barrel storage areas. This exhaust shall not be recirculated to other areas of the building. If the designer or engineer of the plans can demonstrate (i.e. with calculations) that the concentration remains below 25% of the LFL with natural ventilation, then mechanical ventilation shall not be required in those areas.

**Processing Equipment** Equipment utilized for the production, storage, dispensing, blending or handling of Class I liquids shall be listed or approved. This includes pumps, piping, containers, and other components. Pumps shall be rated for flammable liquid service, which generally requires a class 1, division 1 or explosion-proof rating. All connections shall be liquid-tight, and pressure relief devices shall be provided where the maximum working pressure of vessels and/or piping will not be exceeded.

**Combustible Dust Producing Operations** Where ABPFs use, store, transfer, or mill grains in such a way that combustible dust concentrations create a distinct fire or explosion hazard, the facility shall be required to meet the requirements of Chapter 22 of the 2015 IFC for combustible dust explosion prevention. Generally, small scale operations are not required to use explosion prevention devices, but they must ensure that the grain processing areas are cleaned and equipment maintained such that excessive dust is not accumulated. The fire code official determines whether the operation requires compliance with Chapter 22 or not; please contact the hazardous materials plan reviewer for requirements.

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